

3.10 Social

3.10.1 Studies and Coordination

This section is based on the findings of the *SR 509/South Access Road EIS Discipline Report: Social* (CH2M HILL February 2000), *SR 509/South Access Road EIS: South Airport Link* (August 2001), and *SR 509/South Access Road EIS: I-5 Improvements Report* (CH2M HILL October 2001). These reports are incorporated by reference into this FEIS. The primary source of demographic data was the 2000 U.S. Census because it is the most comprehensive, complete, and detailed data source currently available. Block group-level statistics on housing characteristics, racial/ethnic composition, income level, and related information were obtained for each of the project area neighborhoods that would be affected by the build alternatives. Personal communication with public agency and school district staff, as well as property owners, was used to corroborate census demographic data and to identify pockets of low-income or minority populations. The project area is composed of portions of five jurisdictions: the Cities of SeaTac, Des Moines, Kent, and Federal Way, and King County. Aggregated data for the Cities of Des Moines, SeaTac, and Kent, and King County were used to establish a regional context for comparison. Reconnaissance of the affected neighborhoods was used to confirm neighborhood boundaries and identify the locations of important community facilities, such as churches and schools, whose access or usage patterns might be disrupted if the proposed project were built.

3.10.2 Affected Environment

Community Cohesion

Areas of the Cities of SeaTac and Des Moines within the project area are mostly residential neighborhoods with commercial development concentrated along SR 99. Residential and commercial development along I-5 from approximately South 230th Street to South 272nd Street is within the Kent city limits. South of South 272nd Street, the City of Federal Way lies on the west side of I-5; unincorporated portions of King County lie to the east. Demographic characteristics for the Cities of SeaTac, Des Moines, and Kent, and their neighborhoods where measurable impacts to community cohesion are likely, are presented in Table 3.10-1. Information for King County has been included for comparative purposes.

The identification of neighborhoods for analysis purposes was based on neighborhood descriptions in comprehensive planning documents. Figure 3.10-1 shows the general locations of project area neighborhoods.

Eight neighborhoods that could potentially be impacted by the proposed project were identified. Each neighborhood is discussed briefly below.

City of SeaTac

Sea-Tac Airport is located almost squarely in the center of the City of SeaTac. It has to a large extent defined the patterns of commercial and residential development in the city. Although SR 99 is densely developed with commercial enterprises, many of the businesses are airport- and tourism-related. Consequently, there are few businesses catering specifically to neighborhood residents. With a median value of \$147,000 for owner-occupied housing units, as compared to a median value of \$226,400 for King County as a whole (Table 3.10-1), the City of SeaTac includes some of the region's most affordable housing. Rental prices are also somewhat less, on average, than for King County overall.

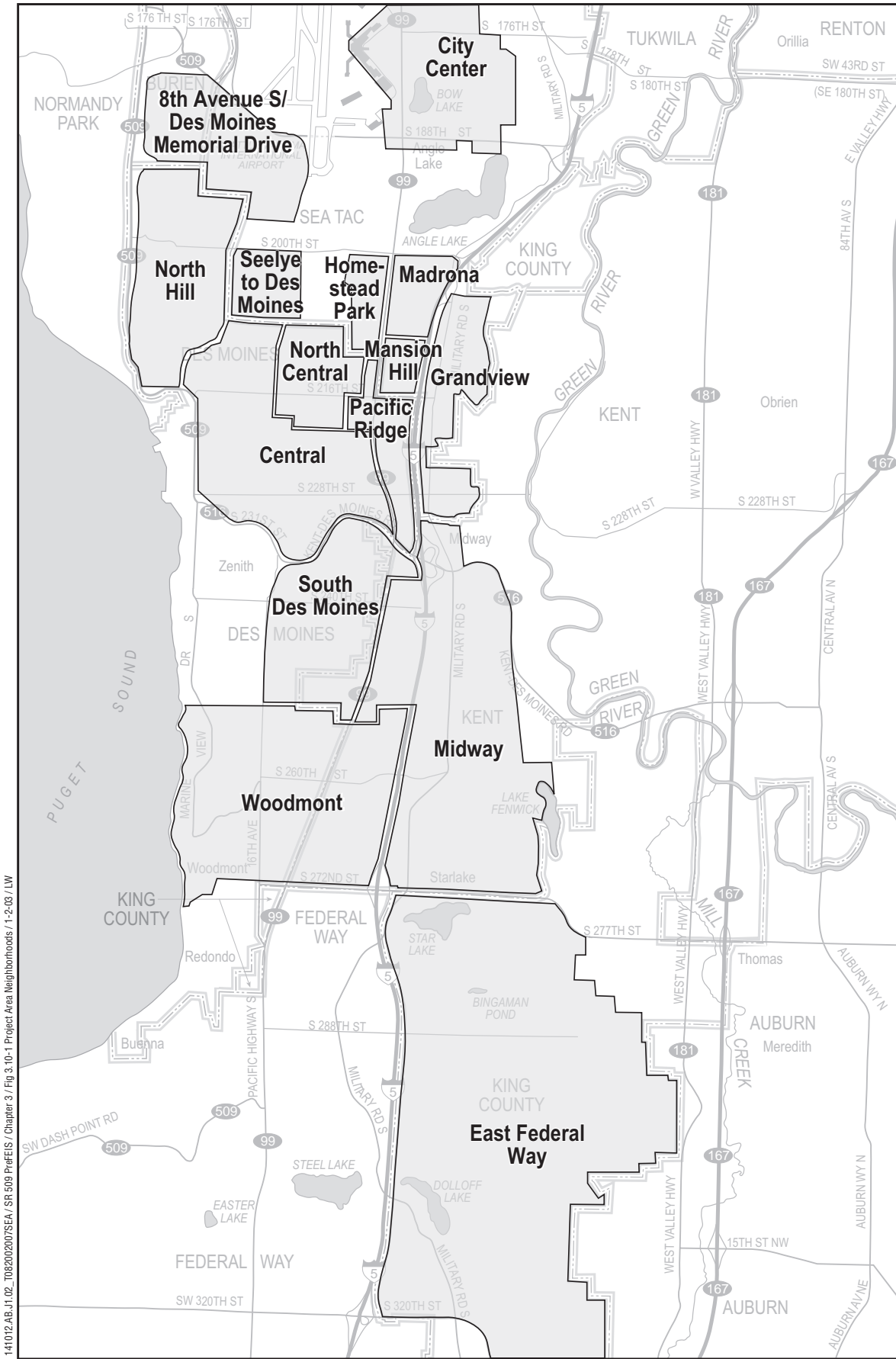
Five SeaTac neighborhoods would be measurably affected to varying degrees by the proposed project. The City Center neighborhood, which could have four displacements from the South Airport Link design options, would not have a substantial enough impact to community cohesion to merit detailed discussion. The characteristics of impacted neighborhoods, as reflected in census and other data, are described below.

8th Avenue South/Des Moines Memorial Drive

This neighborhood consists mainly of a few scattered single-family houses and multifamily dwellings, interspersed with commercial and industrial businesses, in the area south and east of the current terminus of SR 509 and partially within Burien. Because of the relatively low density of development and an increasing mixture of land uses, this area is less socially cohesive than more traditional neighborhood groupings such as residential subdivisions. The City of SeaTac's long-range plans for the neighborhood include increased business park and industrial development, which would likely accelerate a residential-to-commercial transition.

Fifty-seven percent of the residences in this neighborhood are owner-occupied, slightly above the average for the City of SeaTac. Median household income (\$45,429) is slightly lower than the city's median income (\$47,202). The median value of homes (\$135,690) is also lower than the City of SeaTac's median house value (\$147,000). The median contract rent (\$668) is substantially above the median for the City of SeaTac (\$582). Eighth Avenue South/Des Moines Memorial Drive has the second-smallest percentage of minorities of the City of SeaTac neighborhoods, with roughly 28 percent minority residents. There is a slightly lower proportion of residents over the age of 65 in the neighborhood compared to the City of SeaTac and King County.

Table 3.10-1 Project Area Social Characteristics											
	Households				Population (%)						
	Owner/ Renter Occupied (%)	Median Value of Owner- Occupied Housing Units (\$)	Median Contract Rent ^a (\$)	Median Household Income ^b (\$)	White	African- Amer.	Amer. Indian, Alaska Native	Asian	Pacific Islander/ Native Hawaiian	Hispanic Origin ^d	Elderly ^f
King County	60/40	226,400	695	53,157	75.7	5.4	0.9	10.8	0.5	5.5	10.5
City of SeaTac	54/46	147,000	582	41,202	62.9	9.2	1.5	11.1	2.7	13.0	9.7
8th Avenue/Des Moines ^e	57/43	135,690	668	45,429	72.3	6.9	1.2	8.6	1.0	9.1	8.9
Homestead Park	79/21	29,500	503	34,091	61.8	7.6	3.2	12.0	0.7	27.9	4.8
Madrona ^e	19/81	123,106	601	42,730	48.5	19.8	1.1	9.1	5.3	18.6	4.6
Mansion Hill	60/40	162,200	653	43,125	74.4	3.8	2.3	11.0	3.6	4.3	20.2
Grandview ^e	49/51	166,200	705	54,824	69.5	6.8	1.3	6.3	0.3	6.6	8.4
City of Des Moines	61/39	170,000	639	48,971	74.2	7.2	1.0	8.3	1.3	6.6	14.9
North Hill ^e	88/12	172,100	792	56,835	84.6	3.3	0.9	5.7	0.3	4.7	12.2
Pacific Ridge ^e	18/82	104,438	599	31,892	46.0	17.7	1.4	12.6	4.1	17.5	8.0
City of Kent	49/51	168,100	655	46,046	70.8	8.2	1.0	9.4	0.8	8.1	7.3
Midway ^e	62/38	155,052	645	49,159	68.7	8.9	1.5	7.8	1.5	12.1	8.1
<p>Source: 2000 U.S. Census</p> <p>* Neighborhood boundaries do not correspond exactly with census blocks or block groups; a rough correlation has been established so that census data can be used to give a general idea of population, income, and housing characteristics.</p> <p>^a Mean Contract Rent is the monthly rent agreed to or contracted for, regardless of any furnishings, utilities, fees, meals, or services that may be included.</p> <p>^b Income figures are at the Census block-group level.</p> <p>^c Includes the Native Hawaiian race.</p> <p>^d Includes all races alone or in combination with one or more races.</p> <p>^e For neighborhoods containing more than one block group, medians were averaged in proportion to the population, number of households, rental units, or owner-occupied housing units within each group.</p> <p>^f 65 years of age or older.</p>											



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FIGURE 3.10-1

General Location of Project Area Neighborhoods

SR 509: Corridor Completion/I-5/South Access Road
Environmental Impact Statement

Homestead Park

This small neighborhood is located just west of SR 99 and south of South 200th Street. It consists mainly of single-family homes to the south and mobile home parks to the north. Tucked between the commercial development along SR 99 to the east and the fences of the Noise Remedy Program acquisition area to the west, the neighborhood is internally cohesive. Within the context of the city, however, it is an isolated residential pocket in an area of increasing commercial development. Both the City of SeaTac Comprehensive Plan and the zoning code designate the area for airport-related commercial development; therefore, the existing residences are nonconforming uses in terms of the code.

Homestead Park's owner-occupancy percentage of 79 percent is substantially above the City of SeaTac's rate, and is the second highest average in the project area. This is due to the proportionately large number of mobile homes within the neighborhood. (These mobile homes will be relocated as a part of the Port of Seattle and FAA Part 150 Noise Remedy Program.) The substantial presence of the mobile homes is noticeable in the median value for all owner-occupied housing units in the neighborhood - \$29,500. This is one-fifth of the City of SeaTac's median value. The median household income (\$34,091) is also noticeably lower than that of the City of SeaTac and King County. In addition, the median contract rent is approximately \$503, which is below that of the City of SeaTac (\$582), and is the lowest of all the project area neighborhoods in SeaTac. Homestead Park has roughly the same percentage of minorities as the City of SeaTac. The percentage of elderly residents in Homestead Park, however, is only half that of the City of SeaTac and King County.

Mansion Hill

This established neighborhood lies just west of I-5 between approximately South 211th Street and the southern ends of 31st and 32nd Avenues South. Bordered on the north by a steep bluff and on the east by I-5, the neighborhood is made up of single-family houses, many with views west to Puget Sound. This neighborhood is extremely cohesive and has organized on behalf of various issues in the past (Booth pers. comm. 1994).

The percentage of owner-occupied housing in Mansion Hill (60 percent) is on par with the rates of the City of SeaTac and King County. Mansion Hill's median household income (\$43,125) is slightly above the median for the City of SeaTac and the house values (\$162,200) are higher than most of the project area neighborhoods. The median contract rent (approximately \$653 per month) is substantially higher than the median rent prices for the City of SeaTac. Mansion Hill has a lower percentage of minorities (25 percent) than the City of SeaTac overall, but has a considerably higher proportion of elderly residents (20.2 percent).

Madrona

This established neighborhood lies just west of I-5, from South 200th Street to just south of South 208th Street. Its southernmost portion contains several large apartment complexes, which tend to be of newer construction than many in the project area. In the northern part of this neighborhood, single-family residential subdivisions ring the Madrona Elementary School, which draws students from throughout the neighborhood.

The Madrona neighborhood consists mainly of rental units. The very low (19 percent) owner-occupied housing rate is around one-third of the City of SeaTac and King County percentages and is well below the rates of most of the other neighborhoods in the project area. Madrona has a median household income of \$42,730 per year, which is close to the City of SeaTac average. However, school data suggest that groups of low-income households are present within or near the neighborhood; 74 percent of the students at Madrona Elementary School participate in the federal free- or reduced-price lunch program for low-income families (*Seattle Times*, 2002). The average home price (\$123,106) is below the City of SeaTac average housing unit value. However, the median contract rent is approximately \$600, which is slightly higher than the City of SeaTac average. Madrona has a high minority percentage (51 percent) compared to the other City of SeaTac neighborhoods and is known for its racially balanced makeup. This is confirmed and reflected in Madrona Elementary School, which is nearly evenly composed of one-quarter whites, one-quarter African Americans, one-quarter Asian Americans, and one-quarter Hispanics (*Seattle Times*, 2002). Madrona also has the smallest percentage of residents over 65 (4.6 percent) of all the City of SeaTac neighborhoods.

Grandview

The Grandview neighborhood is wedged between I-5 and the steep ridge that drops into the Kent Valley. Single-family houses exist primarily along Military Road and 33rd Avenue South. The Grandview neighborhood has lost some of its connection to the City of SeaTac because it is cut off from the Mansion Hill and Madrona neighborhoods and there are few crossing points over I-5, limiting access to public facilities.

Forty-nine percent of the homes in Grandview are occupied by owners. Grandview has the highest median household income level (\$54,824) of the City of SeaTac project area neighborhoods. The average house value and average rent prices (\$166,200 and \$705, respectively) are well above City of SeaTac averages. In fact, rent prices within the Grandview neighborhood are the highest of all the project area neighborhoods in the City of SeaTac. Grandview has a smaller percentage of minority residents (30 percent) than the City of SeaTac or King County. The percentage of residents over 65 (8.4 percent) is close to those for both the City of SeaTac and King County.

City of Des Moines

Located south of the City of SeaTac along the Puget Sound shoreline, the City of Des Moines is a bedroom community, suburban in character, with commercial and civic activity split between its downtown district near the waterfront and SR 99. Somewhat more affluent overall than the City of SeaTac, the Des Moines median owner-occupied housing value is \$170,000. Des Moines still represents an area of lower-priced housing compared to King County, where the median value of housing units averaged \$226,400. It has a higher proportion of elderly than the county overall, primarily because of several large nursing homes located within its boundaries.

The Des Moines Comprehensive Plan identifies nine neighborhoods within the Greater Des Moines planning area, which includes areas east, south, and north of Des Moines in the Cities of SeaTac and Kent. These areas are socially contiguous with Des Moines neighborhoods despite being outside the city limits. Two neighborhoods in the city of Des Moines—Pacific Ridge and North Hill—would be directly affected by one or more of the build alternatives. Both of these Des Moines neighborhoods are described below.

Pacific Ridge

The Pacific Ridge (formerly North Midway) neighborhood is dominated by commercial development along SR 99, including considerable automobile-related businesses in the vicinity of its intersection with SR 516. Several multifamily residential complexes are located between the commercial development along SR 99 and I-5 to the east and single-family residential areas to the west. The City of Des Moines has developed a subarea plan for Pacific Ridge that will include replacement of lower-scale existing buildings with a denser combination of buildings (up to 120 feet) and open spaces designed for pedestrians and motorists.

Due to the prevalence of multifamily housing, the Pacific Ridge neighborhood has a high renter-occupied percentage (82 percent)—the highest of all the project area neighborhoods. At the time of the 2000 U.S. Census, Pacific Ridge also had the largest percentage of minorities (54 percent) of all the project area neighborhoods. Enrollment information from Midway Intermediate School, which draws in part from the Pacific Ridge neighborhood, indicates that nearly half the students are minorities (*Seattle Times*, 2002). The median household income of \$31,892 is the lowest of all of the project area neighborhoods. The City of Des Moines confirmed that many of the families in Pacific Ridge are low-income and that essentially all of the housing qualified as low-income housing. Midway Intermediate School has 49 percent of its students participating the federal free- or reduced-lunch program (*Seattle Times*, 2002), further substantiating the likely presence of low-income families. The median value of housing units (\$104,438) is about two-thirds that of the value for the City of Des Moines

overall; the median contract rent (\$599 per month) is lower than the City of Des Moines and King County averages. This neighborhood has a small percentage (8.0 percent) of elderly residents compared to the City of Des Moines.

North Hill

The North Hill neighborhood exists in the very northwestern corner of Des Moines. It is made up almost entirely of single-family subdivisions and has two elementary schools (one contains kindergarten through third grade, the other fourth through sixth grades) located in the center of the neighborhood. Several homes in this neighborhood have quality views of Puget Sound or the Cascade Mountains.

Because of the prevalence of single-family homes, the North Hill neighborhood has a high owner-occupied percentage (88 percent). North Hill also has the highest median household income level (\$56,835) of all of the project area neighborhoods. At \$172,100, the average value of an owner-occupied housing unit is comparable to the City of Des Moines average. The average rent price (\$792) is also the most expensive of any of the project area neighborhoods. North Hill is more racially homogenous than most of the project area, having an 84.6 percent white population. Slightly fewer elderly residents live in this neighborhood (12.2 percent compared to 14.9 percent in Des Moines).

City of Kent

A small portion of the City of Kent would be affected as a result of the I-5 improvements. The affected area begins at the South 229th Place/Military Road intersection, and stretches southward to the intersection of I-5 and SR 516. This area includes a couple of businesses north of SR 516 and a series of residential subdivisions along the east side of I-5. This area is loosely associated with the Midway neighborhood. Despite two business displacements, community cohesion impacts would be very minor; however, demographic data are presented in Table 3.10-1 for comparative purposes.

Regional and Community Growth

Local and Regional Population and Employment

Like the entire Puget Sound region, the project area experienced considerable growth during the 1980s as the Northwest economy grew, and the Seattle area's quality of life was praised by the national media. It is likely that rapid growth in the project area is also partly the result of relatively low housing prices; the low housing prices became particularly important during the late 1980s when the average price of homes in King County increased so dramatically that home ownership became out of reach for many families. Of the project area cities, only the City of SeaTac showed modest growth during

the 1980s. This is probably due, in part, to the large buyout of single-family homes that took place because of the Port of Seattle and FAA Part 150 Noise Remedy Program.

Population in the project area is expected to continue to increase. Implementation of the GMA by cities and counties in the Puget Sound region through the use of comprehensive plans and zoning will serve to concentrate population and employment growth into areas already developed or identified for development within urban growth boundaries (UGBs). In the project area, the City of SeaTac plans to replace some areas currently occupied by single-family housing with its proposed urban center development, which will be centered around Sea-Tac Airport and aviation-related businesses (see *Status of Communities* below). In contrast, the City of Des Moines is expected to increase its residential population, primarily through annexation and infill of less densely developed neighborhoods, and also through the redevelopment of the Pacific Ridge neighborhood.

Status of Communities

On the whole, project area communities are fairly stable, with increases in population and employment expected to result from intensification of, rather than changes in, existing land uses such as in the Pacific Ridge neighborhood (see *SR 509/South Access Road EIS Discipline Report: Land Use* [CH2M HILL October 2000]). One exception is the redevelopment of the City of SeaTac CBD, which is discussed below.

The City of SeaTac has embarked on a process of substantial transition as a result of proposals to establish the city as an urban center focused on an expanded and redeveloped CBD, much of which is in the Homestead Park neighborhood. A number of projects are expected to be factors in the urban center's development: a proposed mixed-use CBD core located west of SR 99 between South 192nd and 204th Streets; the SASA, an airport-related facility on 100 acres lying west of the proposed CBD; and proposed land use changes for the west SeaTac subarea, including the Third Runway Project. A number of local and regional transportation system improvement projects, including the proposed project, are seen as essential factors in the development of the urban center. These projects will result in the virtual removal of the residential aspect of the Homestead Park neighborhood as it currently exists. All of the neighborhood's mobile homes will be relocated as a part of the Port of Seattle and FAA Part 150 Noise Remedy Program. Other single-family homes will be displaced as a part of other transportation projects. Eventually, Homestead Park will be redeveloped into the City's envisioned and planned commercial urban environment.

Recreation

Recreational facilities that could be impacted by the build alternatives include three parks (including a planned trail extension), a golf course, and a school playfield. This section describes the potentially affected facilities. These recreational facilities are shown in Figure 3.10-2.

Des Moines Creek Park

Located in a steep, wooded ravine that runs from northeast to southwest through the Cities of SeaTac and Des Moines, this 96-acre "conservancy and community" park is jointly managed by the two cities. The park is intended to protect the natural resources surrounding Des Moines Creek and, secondarily, to provide passive recreational opportunities for the citizens of SeaTac and Des Moines. Its primary value is its natural open space character. Access is currently limited by the fencing erected for the Port of Seattle's Noise Remedy Program, although a trail has been paved along the creek, with a trailhead at South 200th Street. The City of SeaTac Comprehensive Plan indicates a possible extension of the trail northward from the park to North SeaTac Park and linkages to the regional trail system.

Tyee Valley Golf Course

This 18-hole, 116-acre golf course, located directly south of Sea-Tac Airport, is operated as a public golf course through a lease between the Port of Seattle and a private company. Members of the public can use the golf course for a fee. The golf course lease is month-to-month, and stipulates that the Port of Seattle has the right to reduce the acreage or permanently close the course, with a 30-day notice, to allow for its use by planned Port or other public projects. Based on currently known plans, it is likely that the course will be substantially reconfigured and possibly closed prior to any construction for the SR 509 project. The Port of Seattle intends to use the southwest quadrant of the golf course as a staging area and topsoil stockpile area as part of Borrow Area 4 associated with construction of the Sea-Tac Airport third runway project. By late 2003, the Highline Water District plans to begin construction of the Tyee well and treatment facility on the golf course between Des Moines Creek and the proposed alignment of the South Access Road. The northwest corner of the golf course is the site of the proposed regional detention facility included in the Des Moines Creek Basin Plan.

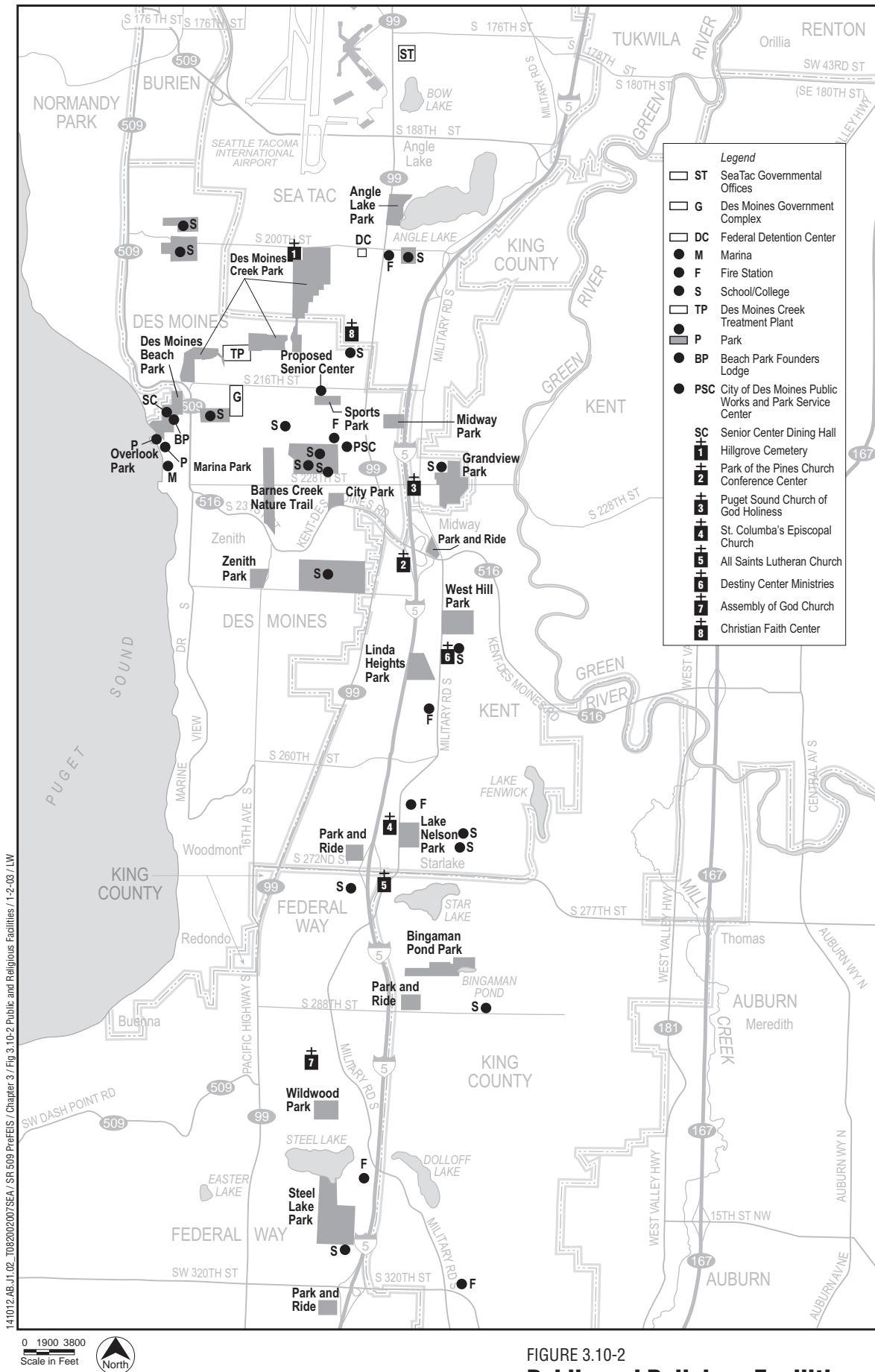


FIGURE 3.10-2

Public and Religious Facilities

SR 509: Corridor Completion/1-5/South Access Road
Environmental Impact Statement

Midway Park

Midway Park is a 1.6-acre neighborhood park located along the south side of South 221st Street in the Pacific Ridge neighborhood of the City of Des Moines and immediately adjacent to a Puget Sound energy (PSE) substation. Figure 3.10-3 shows the park location and Figure 3.10-4 provides a detailed view of the park. Currently, the park contains two small child play areas, a basketball court, an open playfield, and picnic tables. The City of Des Moines *Greater Des Moines Comprehensive Plan* (Des Moines 1995) indicates that the park will eventually be expanded eastward to the I-5 right-of-way.

Midway Park is dominated by noise from traffic on I-5. The current measured noise levels in the middle of the park range from 67.5 dBA to 70 dBA. Such noise levels are above the FHWA noise abatement criteria (NAC) for parks of 67 dBA.

Linda Heights Park

Linda Heights Park is a neighborhood park located on a site owned by the City of Kent Public Works Department for its regional stormwater retention and sanitary sewer lift station. Figure 3.10-3 shows the park location and Figure 3.10-5 provides a detailed view of the park. The newly remodeled park is adjacent to the I-5 right-of-way at approximately South 248th Street west of 35th Avenue South. Comprising 4.2 acres, the park includes one half basketball court, picnic tables, play equipment, and public art. Linda Heights Park is designated in the Kent Comprehensive Plan as a neighborhood park, which is used primarily by residents in the surrounding neighborhood.

I-5 traffic noise is a dominant feature of the park. Current measured noise levels in the park are in the 70 to 71 dBA range. Such noise levels are above the FHWA NAC for parks of 67 dBA.

Mark Twain Elementary School Playfield

The Mark Twain Elementary School playfield is located immediately west of the I-5 right-of-way and south of South 272nd Street. Figure 3.10-3 shows the playfield location and Figure 3.10-6 provides a detailed view of the playfield. The playfield is used during school hours for the school's physical education program; after hours, the playfield is available for public use, including the Federal Way Youth Soccer League.

I-5 traffic noise is a dominant feature. The measured average noise level was 67 dBA, which is equivalent to the FHWA NAC for a school, park, or playfield.

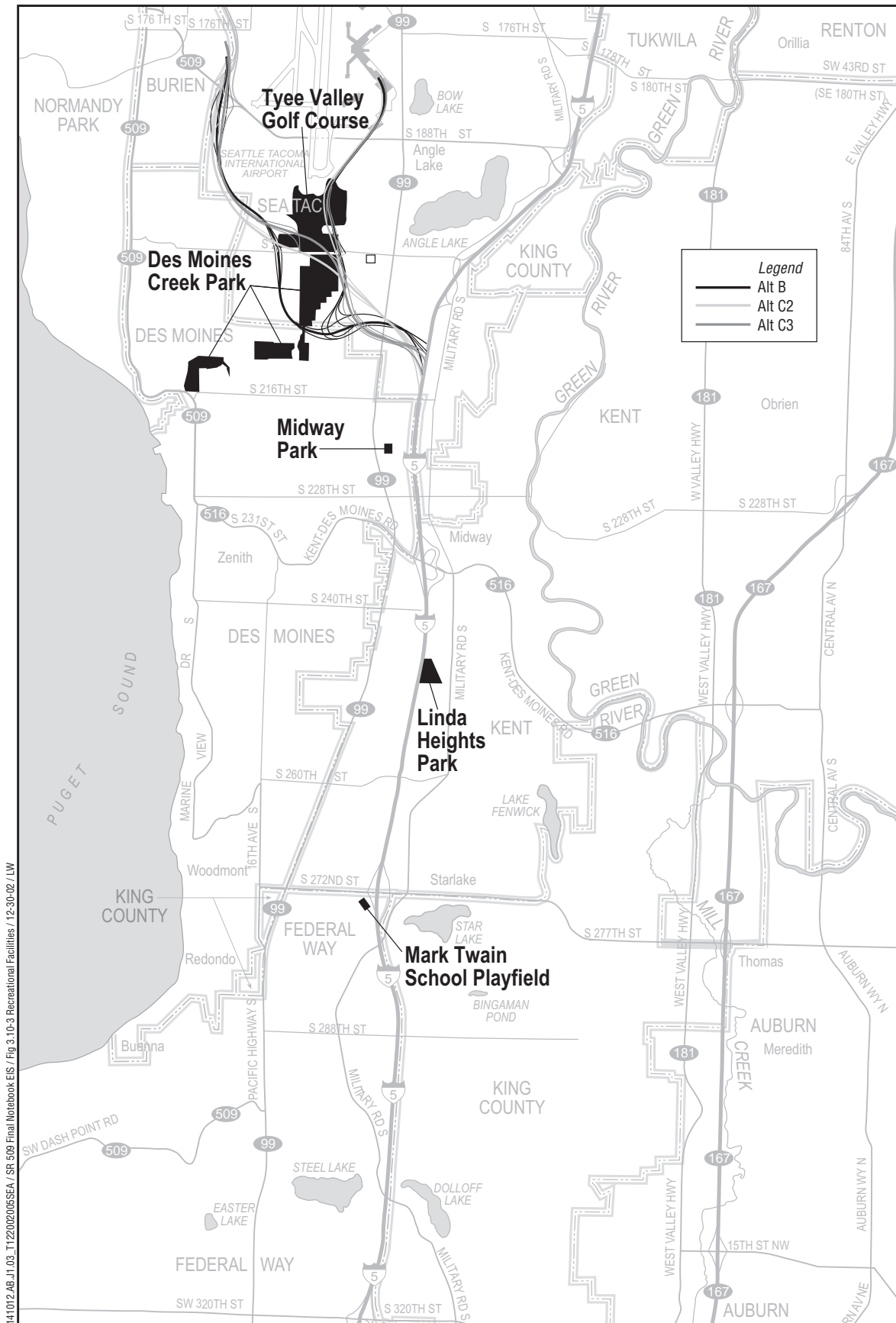
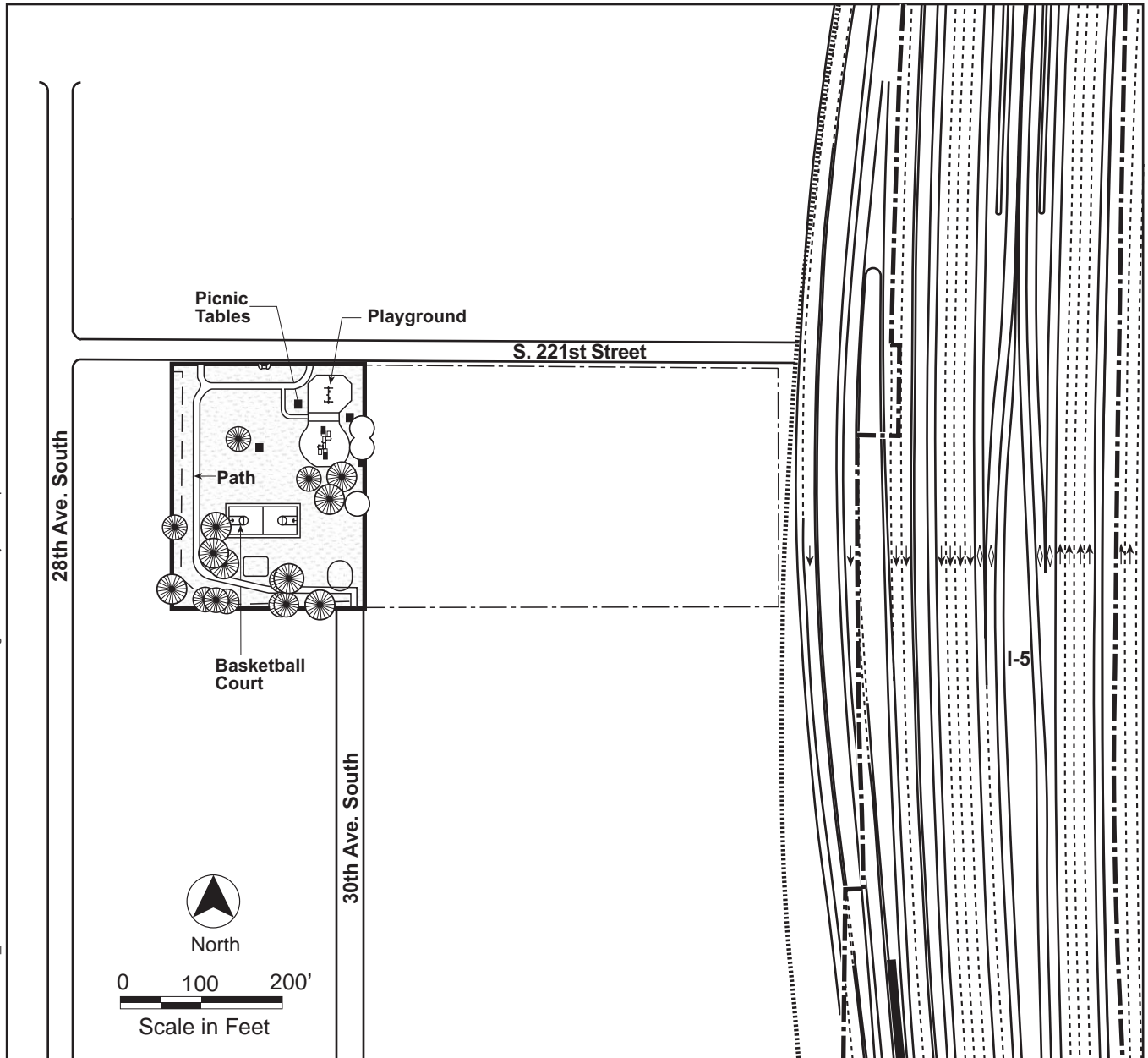


FIGURE 3.10-3
Existing and Proposed Recreational Facilities
Impacted by Project Alternatives

SR 509: Corridor Completion/I-5/South Access Road
Environmental Impact Statement



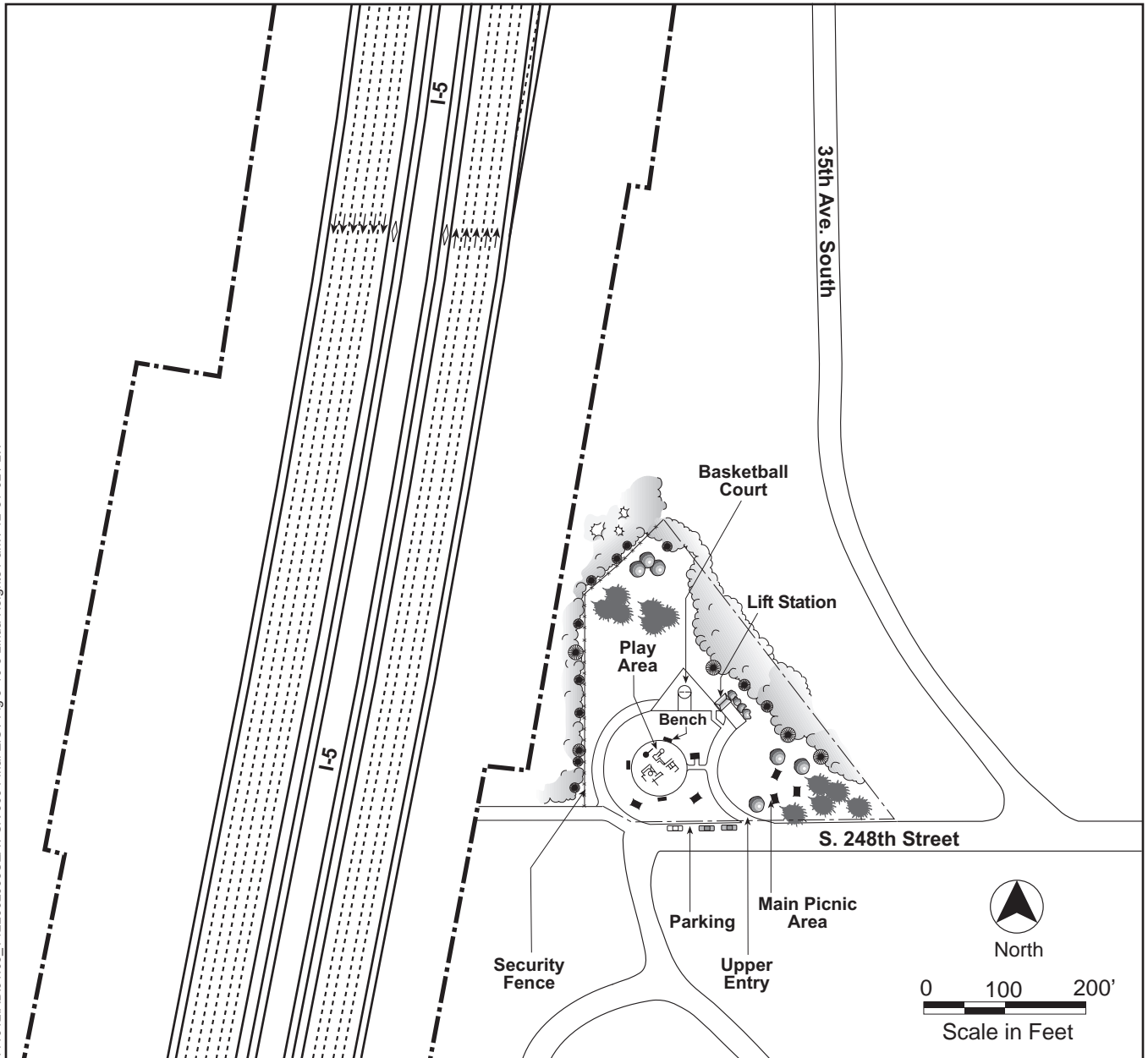
Legend

- Existing Right-of-Way
- Proposed Right-of-Way
- Existing Midway Park Area
- Proposed Expansion of Park

FIGURE 3.10-4

Impacts on Midway Park

SR 509: Corridor Completion/I-5/South Access Road
Environmental Impact Statement



Legend

- · — · — Existing Right-of-Way
- Picnic Tables

FIGURE 3.10-5

Impacts on Linda Heights Park

SR 509: Corridor Completion/I-5/South Access Road
Environmental Impact Statement

Services and Utilities

Figure 3.10-2 shows the location of public facilities in the project area.

Schools

The project area is served by the Highline, Federal Way, and Kent School Districts. Although attendance boundaries have been established for schools within each respective district, students may attend another school in a given district. The service area of each school varies with the area's population density and the school's grade level.

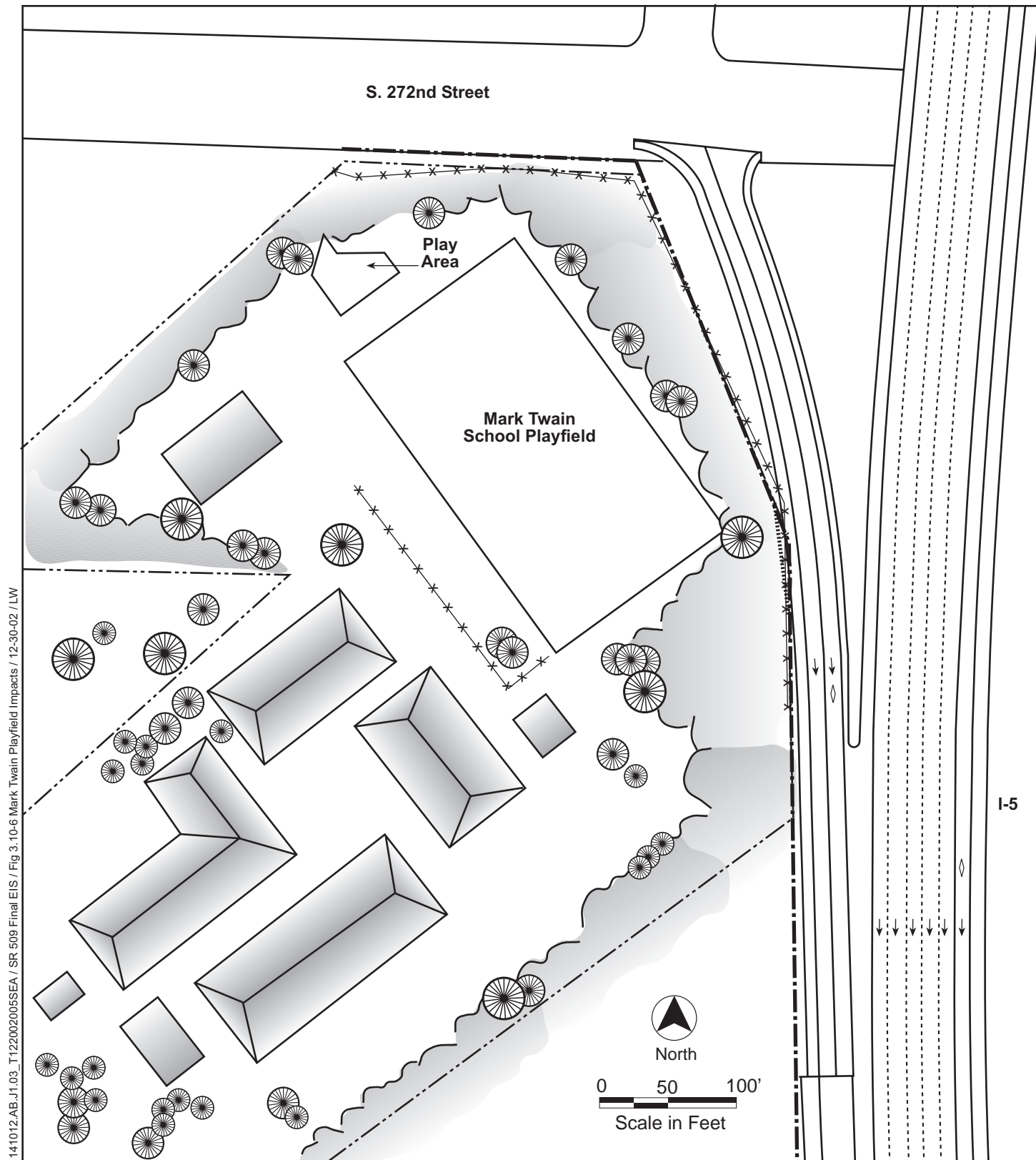
Bus transportation is generally provided for students living outside a set distance from, but within the attendance boundaries of, their designated school. Information regarding school bus routes on I-5 is listed below, in addition to each district's bus policy.

Highline School District 401

The Highline School District serves the Cities of SeaTac and Des Moines. There are several schools in and about the project area. Bus transportation is provided for students living outside a set distance from, but within the attendance boundaries of, their designated school. School buses transport elementary students who live more than 1 mile from the school, junior high students who live more than 1-1/2 miles away, and high school students who live more than 2 miles away. The Director of Transportation within the Highline School District estimates that 6 to 10 buses travel on I-5 daily; in addition, buses going on field trips use I-5 from time to time (Carr pers. comm. 2001).

Kent School District

Schools close to the project area in the Kent School District include the Kent Learning Center and Neely O'Brien Elementary School. Bus transportation is provided for students living outside a set distance from, but within the attendance boundaries of, their designated school. School buses transport elementary students (Kindergarten through 6th grade) who live more than 1-1/3 miles from the school, junior high students who live more than 1-3/4 miles away, and high school students who live more than 2 miles away. Within these boundaries, students may walk to school. Special Education students who require special transportation are picked up and dropped off as close to their home as possible, depending on their disability. According to the transportation department within Kent School District, 2 bus routes currently travel on I-5 each day in addition to the daily buses; buses also use I-5 for field trips throughout the year (Catton pers. comm. 2001).



Legend

- Existing Right-of-Way
- Proposed Right-of-Way
- x-x-x Fence
- School Property Line
- School Buildings

FIGURE 3.10-6

Impacts on Mark Twain School Playfield

SR 509: Corridor Completion/I-5/South Access Road
Environmental Impact Statement

Federal Way School District

The Federal Way School District covers all of Federal Way and also extends east across I-5 into some parts of unincorporated King County. Several Federal Way schools are close to the project area. Students residing more than 1 radius mile measured as a straight line from their assigned school to their residence are eligible for bus transportation. Students living within the 1-mile radius may also be eligible for bus service if the walking route is evaluated as hazardous according to state guidelines. Such routes are called "safety routes." Students with disabilities may be eligible for transportation service without distance limitations, depending on the student's abilities. According to the Federal Way School District transportation department, at least 2 bus routes currently travel on I-5 each day. Buses might also use I-5 during field trips (Calhoon pers. comm. 2001).

Highline Community College in Des Moines is also located within the project area. It serves Community College District 9, whose boundaries extend from the southern boundary of Seattle to Pierce County, and from Puget Sound to the western city limits of Kent and Auburn. The student population, however, is drawn from far beyond the district's boundaries. Each year about 10,000 students enroll at the college, which provides opportunities in higher education, vocational training, and continuing education.

Religious Institutions

The project area contains a number of churches of varying denominations, some of which have preschools and schools associated with them (Figure 3.10-2). Two churches are located close to the proposed footprint of construction—Puget Sound Church of God Holiness located at Military Road and South 228th Street, and St. Columba's Episcopal Church located at 26715 Military Road. One church conference center—Park of the Pines Church Conference Center on 30th Avenue South—is also located in the project area. Additionally, the Christian Faith Center operates a private school on 24th Avenue South near South 208th Street in the City of SeaTac. Because of denominational affiliations and personal preferences, church attendance is not typically tied to place of residence; people may travel across town or to a neighboring town to attend the church of their choice.

Medical Services

Medical services in the project area include several general purpose and specialty clinics. Hospitals serving the project area are all located outside of its boundaries. They include the Highline Community Hospital, which maintains a hospital facility in the area west of SeaTac, a hospital facility northeast of SeaTac, Auburn General Hospital, Valley Medical Center in Renton, and St. Francis Hospital in Federal Way. A University of

Washington Physicians' Clinic operates in the Midway Shopping Center in Kent.

Fire and Police Protection

Fire protection and other emergency services in the project area are provided by King County Fire Districts No. 26 and 37 and the fire departments of Kent, Federal Way, and SeaTac. These fire districts work cooperatively, using automatic response and mutual aid agreements to enhance fire protection and related emergency services. A hazardous materials response team, Plan 20, provides specialized equipment and personnel for emergencies involving hazardous materials. Fire District No. 39 in Federal Way has command responsibility for Plan 20, although King County Fire District No. 26 is also involved.

Police protection in the project area is provided by the SeaTac, Des Moines, Kent and Federal Way police departments. The King County Sheriff is present at the SeaTac police department. The Port of Seattle also maintains police and fire departments, whose primary service area is Sea-Tac Airport. Police departments participate in cooperative enforcement activities, as outlined in various interlocal agreements for such things as jail services; use of K-9 units; and bomb, special weapons and tactics (SWAT), and hostage negotiation units.

The Federal Detention Center is an approximately 275,000-square-foot facility with a single multistory structure providing roughly 500 units for short-term detention of pretrial and trial detainees, unsentenced inmates who are going through the sentencing process, and sentenced inmates awaiting transfer to another federal facility. Built in 1996, it lies along South 200th Street at 26th Avenue South, immediately south of the proposed SASA project.

Cemeteries

The Hillgrove Cemetery, located on South 200th Street west of 18th Avenue South, is the only cemetery near the proposed improvements. Created in 1900, it is the final resting place of many early pioneers. Some of its headstones date to the early 20th century.

Governmental Institutions and Services

Governmental facilities in the project area include the SeaTac City Hall and the Des Moines governmental complex. These facilities house city administration, planning and public works, and police departments, as well as the cities' municipal courts. The Des Moines governmental complex also contains the City's public library. The Des Moines Parks and Public Works Service Center is located on the corner of South 223rd Street and 24th Avenue South. In addition to the facilities noted, Des Moines operates an

800-slip public marina, the Senior Center Dining Hall, and the Beach Park Founders Lodge.

Water

Domestic and fire protection water within the project area is provided by the Highline Water District, Lakehaven Utility District, and the City of Kent. The Highline Water District spans from the north end of the project area (South 216th Street) to approximately South 288th Street. The Lakehaven Utility District begins near the intersection of I-5 and South 288th Street and continues south to encompass the rest of the project area. The Lakehaven Utility District serves parts of south Des Moines, unincorporated parts of King County, and all of Federal Way. The City of Kent has its own domestic water system, which currently extends north to Military Road South, south of the SR 516/I-5 interchange.

The Highline Water District and the Port of Seattle each have a well located in the vicinity of South 200th Street and 20th Avenue South. A Seattle Public Utilities (formerly Seattle Water Department) transmission line runs south along Des Moines Memorial Drive to South 216th Street. Water mains 10 inches in diameter or larger are located along SR 99, as well as along several east-west arterials (South 200th, 208th, and 216th Streets, as well as parallel to I-5) (Keown pers. comm. 2001). Within the Lakehaven Utility District, there are at least 4 water mains that cross I-5 between South 288th Street and South 317th Street (Bowman pers. comm. 2001). A water main crosses underneath I-5 at South 240th Street and ties the City of Kent water system to the Highline Water District. This water main connects to Kent pump station #8, located at 35th Avenue South and South 240th Street. The Highline-Kent intertie acts as a critical emergency back-up water supply to the City of Kent (Hall pers. comm. 2001).

Sanitary Sewer

Portions of the project area are serviced by sewer lines from the Midway Sewer District, Lakehaven Utility District, and the City of Kent. Major facilities within the project area include the Des Moines Creek Treatment Plant and a number of sewer trunk lines 10 inches or larger in diameter. Trunk lines in the vicinity of the proposed build alternatives alignments run along Des Moines Creek from near Sea-Tac Airport to the treatment plant, along 16th and 20th Avenues South, and along SR 516 from Marine View Drive to SR 99. Smaller lateral lines also exist throughout the project area. Two Kent system pump stations in the project area are located at the South 224th Street/Military Road South intersection and at Linda Heights Park where South 248th Street and 35th Avenue South intersect. One 8-inch sewer main crosses I-5 near South 260th Street (Kase pers. comm. 2001). At least one sewer main in the Lakehaven District crosses I-5 in the project area (Bowman pers. comm. 2001).

Electrical Power

Electrical service within the project area is provided by PSE. Five substations are located within the project area, along with a number of overhead and underground transmission lines. The Midway Transmission Substation, located near the corner of 30th Avenue South and South 211th Street, is a major area electrical facility that delivers power to local distribution substations. Next to the transmission switching substation is a distribution substation that feeds into 115 kV transmission lines.

Five PSE transmission lines cross the I-5 project area in an east to west fashion. The crossings occur at South 216th Street, South 221st Street, South 22nd Street, South 224th Street, and South 288th Street. Furthermore, there are plans for a sixth crossing of I-5 near South 224th Street. The proposed line would carry twice the power (230 kV) of the existing 115 kV lines.

The Bonneville Power Administration owns a Bulk Transmission System line that crosses I-5 around South 320th Street and provides power to all the PSE transmission lines.

Natural Gas

PSE also supplies natural gas to portions of the project area. A major high-pressure trunk line follows SR 99 and branches off to South 222nd Street, runs west to 16th Avenue South, and continues outside the project area. A gas supply main runs along Military Road South throughout the entire length of the project area. This gas main crosses I-5 twice, once near Star Lake Road and a second time farther south near Steel Lake.

Other Utilities

The Olympic Pipeline Company operates petroleum supply lines and the Petroleum Supply Aircraft Fuel Tank Farm near the southeast corner of Sea-Tac Airport. Access roads, system feeds, and distribution routes for the fuel facilities are also located in this area.

Other

Other services in the project area include cable television provided by AT&T Cable Television, conventional telephone provided by U.S. West Communications, and wireless cellular service provided by a number of companies, such as U.S. West/New Vector, Cellular One, AT&T Wireless, Verizon, Sprint, Nextel, and Voice Stream. Solid waste collection and disposal within the project area is provided by a conglomerate of companies including Tri-Star (RST), SeaTac Disposal, Nick Raffo Garbage Company, Kent Disposal Company, Federal Way Disposal, and Rabanco. Various recycling centers are located throughout the project area, in addition to residential curbside and yard debris services. Nonrecycled waste is disposed

of in the King County Cedar Hill landfill, located approximately 20 miles southeast of Seattle. According to the King County Solid Waste Division, the Cedar Hill landfill has approximately 14 million tons or 15 years capacity.

Pedestrians and Bicyclists

Pedestrian and bicyclist facilities in the project area consist of sidewalks, paved and unpaved shoulders, walkways, and trails. Most of these facilities are shared roadway shoulders and sidewalks. One exception (the Des Moines Creek Trail) is discussed in the *Recreation* section of this FEIS. There are no pedestrian or bicyclist facilities on I-5. Pedestrian and bicyclist facilities in the project area are discussed in greater detail in the *SR 509/South Access Road EIS Discipline Report: Transportation* (CH2M HILL January 2002).

3.10.3 Environmental Impacts

Community Cohesion

Community cohesion would be affected in all affected neighborhoods to some degree through the loss of single- and multifamily homes, the physical fragmentation of residential areas, and the disruption of access to community facilities and services. Total impact on community cohesion was assessed by observing the pattern of right-of-way acquisition and the resulting physical disruption (such as demolition of houses and severing of neighborhood streets) that the proposed roadway would cause with each build alternative. The main general difference between the three build alternatives is that Alternatives B and C2 would have greater impacts on the Madrona neighborhood, while Alternative C3 would have greater impacts on the Mansion Hill neighborhood.

Alternative A (No Action)

Neighborhoods such as 8th Avenue South/Des Moines Memorial Drive and Homestead Park, which are planned for a transition to new commercial and industrial development, could retain their cohesion for a greater amount of time.

Impacts Common to All Build Alternatives

Pacific Ridge Neighborhood

Several multifamily units near I-5 would be displaced. Thirteen apartment buildings with 95 multifamily units would be acquired in the Pacific Ridge neighborhood. The displacements would occur mostly within one large apartment complex, Heritage Court, which sits adjacent to the existing I-5 right-of-way. Fifty-two of Heritage Court's 135 units would be displaced. The remaining displacements in the neighborhood would be to the north and

south of this complex, also along the existing I-5 right-of-way. Among these multifamily units, three houses would be displaced as well.

From a physical standpoint, the neighborhood would retain its cohesiveness. No roads would be severed, and the circulation of internal traffic would be unimpeded. Connections to SR 99 and the neighborhoods would remain, and I-5 would be easily accessible. While the I-5 improvements would directly impact the cohesiveness of the eastern edge of the neighborhood, the rest of the neighborhood would remain completely intact, including the remainders of the affected multiunit complexes. No part of the project would physically isolate a section of the neighborhood, and no barriers would be created because the project would be constructed on the edge of the neighborhood.

Socially, the loss of multifamily units would represent a loss of affordable housing and would likely include the displacement of low-income households. To the extent that vacancies exist, households could relocate within the neighborhood since most of the housing stock is affordable. The City of Des Moines expects properties in the neighborhood to redevelop eventually in accordance with the subarea plan. As described in the Pacific Ridge Neighborhood Improvement Project FEIS, replacement of low-income housing in the neighborhood is encouraged but not mandated; therefore, the creation of additional low-income units in the future is uncertain. Despite the loss of housing, no community facilities would be impacted and public services to the neighborhood would remain intact. The neighborhood would benefit from less congestion on SR 99, which leads to regional employment centers and also supports several bus routes. No businesses near the neighborhood would be displaced, ensuring that local residents would continue to have commercial support services and job opportunities nearby.

Midway Neighborhood

Social cohesion impacts on the Midway neighborhood would be limited to two businesses displacements and limited right-of-way acquisition along I-5. Local streets and access to nearby services would be maintained. Impacts would be low.

Alternative B

Alternative B would route a limited-access roadway with heavy traffic volumes through five existing neighborhoods in the City of SeaTac: 8th Avenue South/Des Moines Memorial Drive, Homestead Park, Mansion Hill, Madrona, and Grandview. Homestead Park would experience the greatest impacts resulting from displacements and physical fragmentation. Of these five neighborhoods, 8th Avenue South/Des Moines Memorial Drive would experience the lowest level of impacts on community cohesion because the fewest number of residential units would be displaced. Two neighborhoods in

Des Moines, North Hill and Pacific Ridge would also be affected by Alternative B.

Eighth Avenue South/Des Moines Memorial Drive

Eighth Avenue South/Des Moines Memorial Drive Neighborhood would experience the lowest level of impact on community cohesion in the City of SeaTac, considering that development is scattered and the major arterials (South 188th, 192nd, and 200th Streets) would remain intact. The neighborhood as a whole would be physically fragmented, but arterial connections would maintain accessibility between single-family residences west of the proposed right-of-way and commercial activity to the east of the right-of-way. Census blocks that would be affected generally have high median incomes. One of the affected blocks has a minority percentage of 46 percent; this block would have three displacements. Alternative B would not preclude access to any community facilities from this neighborhood. Businesses that would be displaced are not key employers and do not have strong associations to the neighborhood, but may be used by some nearby residents (mechanics, coffee shop, etc.). To the degree that these businesses could be used by residents, social cohesion may suffer somewhat.

Homestead Park Neighborhood

Impacts on this neighborhood would be moderately severe, involving the acquisition of between 34 and 36 single-family homes for new right-of-way. Affected census blocks in Homestead Park have owner-occupant rates ranging from 61 to 81 percent. Homestead Park has a minority population close to the City of SeaTac average, and the impacted census blocks reflect that average. None of these displacements have been identified as low-income households or Section 8 housing. Sixteen businesses would be displaced from the neighborhood; however, these businesses are primarily warehousing-oriented and serve the airport instead of the neighborhood. A loss of job opportunities for local residents would not be expected since these businesses have indicated they would likely relocate near the airport and consequently near the affected neighborhood.

The Alternative B alignment would isolate the remaining single-family homes in the southern part of the neighborhood from the rest of Homestead Park. It would also make access to these homes more circuitous because South 208th Street would be closed just west of SR 99. These impacts would be somewhat temporary, as the neighborhood is planned for complete redevelopment in coordination with new transportation infrastructure.

Madrona Neighborhood

The southern section of this neighborhood, which is composed mainly of multifamily complexes, would experience numerous displacements as a result

of Alternative B. Thirty buildings with 143 multifamily units would be displaced. The affected Census blocks in Madrona have high minority populations (some over 50 percent) and median household incomes well below the City of SeaTac median household incomes. Some households receiving federal Section 8 assistance would be displaced by this alternative. Socially, unless households could be relocated within the neighborhood, the substantial loss of affordable housing and displacement of minority households would reduce the size of the neighborhood and could affect the cultural balance that this neighborhood currently enjoys.

Madrona residents would benefit from reduced traffic near the neighborhood, which would increase accessibility to local and regional employment centers. Access to businesses and public transit on SR 99 would also be maintained.

Despite the number of displacements, the physical impacts on Madrona as a whole would be less severe. Because the roadway would travel through a corner of the neighborhood, barrier effects would be minimal. The affected corner of the neighborhood contains businesses on SR 99 that generally serve passing automobile traffic and not specifically the Madrona neighborhood (one of these businesses would be displaced). South 208th Street would be closed just west of SR 99; however, a new access road would be constructed to preserve access to remaining residential units. This would help to keep the neighborhood together physically, and would keep access to community facilities intact. Thus, despite a large number of displacements, the total level of impacts on Madrona would be moderate.

Mansion Hill Neighborhood

Impacts on community cohesion under Alternative B in the Mansion Hill neighborhood would be low to moderate. Twenty single-family homes would be displaced as a result of this alternative; no low-income or high-minority areas would be impacted. All of these displacements would occur around the intersection of South 211th Street and 32nd Avenue South; even though this intersection would be severed, no internal circulation problems or external access difficulties would be created. The loss of housing would reduce the size of the neighborhood and in that manner incrementally reduce its cohesion. However, because only the northeast corner of the neighborhood would be impacted, no part of the neighborhood would be physically fragmented from the rest and no barrier would be created through the neighborhood. No businesses or community facilities would be affected. Since the neighborhood is adjacent to SR 99, it would benefit from the improved traffic and access to employment centers and transportation facilities.

Grandview Neighborhood

Social cohesion impacts in this neighborhood would be moderate. Alternative B would displace between 34 and 36 single-family homes along the residential streets parallel to I-5. Affected census blocks in Grandview have higher owner occupation rates than the City of SeaTac. Grandview also has minority percentages at or below the City of SeaTac average and median household income well above the City's median. The loss of housing would impact Grandview's social cohesion because little replacement housing exists directly in the narrow linear neighborhood.

The cohesion of these local residential streets would be impacted, but the overall effect on the neighborhood would be lower because the impact would be isolated along the edge of the neighborhood. A similar impact would occur near South 216th Street and 32nd Avenue South. Just south of the neighborhood, one business (that does not appear to have strong connections to the surrounding neighborhood) would be displaced. This alignment would not fragment the neighborhood into parts, and would preserve arterial connections (Military Road South and South 216th Street) across I-5 that connect the neighborhood to public facilities located in SeaTac and Des Moines.

One church—Puget Sound Church of God Holiness, located at Military Road and South 228th Street—would be displaced. The church has no particular association with the Grandview neighborhood and is attended by residents throughout the project area.

North Hill Neighborhood

With two single-family displacements, 12 multifamily unit displacements, one business displacement, and no physical fragmentation, this neighborhood would experience limited impact on social cohesion. The SR 509 mainline would just clip the corner of this neighborhood. No low-income or high-minority areas would be impacted. Of the neighborhoods with measurable community cohesion impacts, North Hill would be the least impacted neighborhood under Alternative B.

Alternative C2 (Preferred)

Eighth Avenue South/Des Moines Memorial Drive and North Hill

Impacts on community cohesion in areas north of South 200th Street would occur in the same neighborhoods and general areas as in Alternative B. In the northwest project area, the Alternative C2 alignment would run farther west, resulting in 14 more multifamily unit displacements in North Hill and 8 to 9 single-family house displacements in 8th Avenue/Des Moines Memorial Drive. Despite the larger number of displacements in these neighborhoods, the overall social impacts would be primarily the same as described under

Alternative B. The displacements would be confined to the same isolated areas, and internal and external access and circulation would remain intact. Business impacts would be the same. The same census blocks would be affected, including one with a minority percentage of 46 percent; this block would have seven displacements.

Homestead Park Neighborhood

Alternative C2 would have a low impact on the Homestead Park neighborhood. Although a sizable portion of this neighborhood would be acquired for the future SR 509 right-of-way, the land acquired would be vacant (following the Port of Seattle's relocation of homes in four mobile home parks). The same 16 businesses displaced under Alternative B would be displaced from the neighborhood in this alternative. Neither a loss of job opportunities nor other cohesion impacts would be expected.

Single-family houses south of South 208th Street would become more isolated in the midst of anticipated and planned commercial development, even though their access to SR 99 and South 208th Street would remain intact. Access to services would not be any more circuitous with the proposed alignment in place. No neighborhood arterial streets would be cut off as a result of Alternative C2. These houses would enjoy the benefits of reduced congestion on SR 99.

Madrona Neighborhood

Alternative C2 would impact less of the Madrona neighborhood than Alternative B. This alternative would cut across a smaller portion of the southwest corner of the neighborhood, displacing 10 buildings with 69 multifamily units. The displacements would occur in census blocks that have high minority populations (some over 50 percent) and median household incomes well below the City of SeaTac median. Some households receiving federal Section 8 assistance would be displaced by this alternative. A more moderate amount of affordable housing would be displaced by this alternative, increasing the chance that households could be relocated nearby. Still, the loss of housing diminishes the population of the neighborhood and some of its cohesiveness. To the extent that relocation within the neighborhood is successful, Madrona's cultural diversity and balance could be better preserved than under Alternative B. Madrona residents would benefit from reduced traffic near the neighborhood which would increase accessibility to local and regional employment centers. Access to businesses and public transit on SR 99 would also be maintained.

As with Alternative B, the roadway would travel through the corner of the neighborhood, and barrier effects would be minimal. The affected corner of the neighborhood contains a few businesses on SR 99 that generally serve passing automobile traffic and not specifically Madrona. Additionally,

Madrona would experience an enhancement of dual access to SR 99, including access by traveling either north to South 204th Street or south via South 211th Street (Mansion Hill). Currently there is no interaction between Madrona and Mansion Hill due to the lack of any collector road connections and the physical barrier created by the steep hillside between the two neighborhoods. This alternative would take advantage of this unpopulated corridor to create a connector road, improving community connections and establishing a new access point to SR 99.

Mansion Hill Neighborhood

Impacts on community cohesion in the Mansion Hill neighborhood would be moderate. Under Alternative C2, 18 single-family homes would be displaced. All of these displacements would occur near the intersection of South 211th Street and 32nd Avenue South. No low-income or high-minority areas would be impacted. The loss of housing would reduce the size of the neighborhood and in that manner incrementally reduce its cohesion, similar to Alternative B. Alternative C2 would not create any internal circulation problems or any external access difficulties within the Mansion Hill neighborhood. The neighborhood would have improved access and circulation as a result of the connector road that would be constructed leading to the Madrona neighborhood, and would also benefit from the reduced congestion along SR 99. No part of the neighborhood would be physically fragmented from the rest because only the northeast corner of the neighborhood would be impacted.

Grandview Neighborhood

Impacts to the Grandview neighborhood would be similar to those of Alternative B. Compared to Alternative B, Alternative C2 would have two additional single-family displacements in a census block with a low percentage of minorities and a high median income. The loss of housing would impact Grandview's social cohesion because little replacement housing exists directly in this narrow linear neighborhood.

The impact on cohesion of these local residential streets would be low because the impact would be isolated along the edge of the neighborhood. Just south of the neighborhood, one business would be displaced. This alignment would preserve arterial connections across I-5 that connect the neighborhood to public facilities located in SeaTac and Des Moines.

One church—Puget Sound Church of God Holiness located at Military Road and South 228th Street—would be displaced. The church has no particular association with the Grandview neighborhood and is attended by residents throughout the project area.

Alternative C3

Eighth Avenue South/Des Moines Memorial Drive and North Hill

Alternative C3's impact on community cohesion in areas north of South 200th Street would be nearly the same as that of Alternative C2. Alternatives C2 and C3 would have similar alignments in the 8th Avenue South/Des Moines Memorial Drive and North Hill neighborhoods.

Madrona Neighborhood

Alternative C3 would nick the corner of the neighborhood, displacing only two single-family houses and two businesses in the Madrona neighborhood. The small number of displacements would have a minimal effect on community cohesion. No barriers would be created through the neighborhood, and all internal circulation patterns would be unaffected. Access to nearby public facilities and services would remain the same. The neighborhood would benefit from reduced congestion along SR 99.

Homestead Park Neighborhood

Impacts on the Homestead Park neighborhood would be similar to those of Alternative B, except that fewer single-family homes (19 to 20) would be displaced. Affected census blocks reflect moderate median incomes and low percentages of minorities. None of the displacements have been identified as low-income households or Section 8 housing. Six businesses would be displaced from the neighborhood; these businesses are primarily warehousing oriented and serve the airport instead of the neighborhood. One exception is the Alaska Airlines Gold Coast Center, which currently employs an estimated 300 people. Because of the large amount of office and meeting space contained in the center, it poses a unique relocation challenge. In addition, Alaska Airlines intends to expand its facilities at this site to accommodate its West Coast and regional headquarters for maintenance and operation, which would increase employment in the area. Similarly sized buildings close to the airport are scarce. Representatives of Alaska Airlines have indicated that the facility would relocate to a different city (outside the region) if displaced. This would hurt the cohesion of several neighborhoods, including Homestead Park, if local residents are employed at this center or count on the business traffic it generates. No other effects to neighborhood cohesion from the relocation of these businesses is expected.

The Alternative B alignment would isolate the remaining single-family homes in the southern part of the neighborhood from the rest of Homestead Park. It would also make access to these homes more circuitous because South 208th Street would be closed just west of SR 99.

Mansion Hill Neighborhood

While avoiding the Madrona neighborhood, Alternative C3 would traverse a wide portion of Mansion Hill as it crosses SR 99 and heads toward I-5. This would result in moderately severe social cohesion impacts. Alternative C3 would displace 42 to 43 single-family housing units in the north and east sections of the neighborhood. Despite the high number of displacements, no low-income or high-minority areas would be impacted. The loss of housing would substantially reduce the size of the neighborhood and in that manner reduce its cohesion. No part of the neighborhood would be physically fragmented from the rest, and no barrier would be created through the neighborhood, although the alignment's presence would occupy a large portion of the existing neighborhood.

Internal circulation would be disrupted because the Alternative C3 alignment would turn several neighborhood streets into cul-de-sacs.. There would no longer be any through streets in the neighborhood, making access to services more circuitous for some houses. No businesses or community facilities would be affected. Since the neighborhood is adjacent to SR 99, it would benefit from the improved traffic and access to employment centers and transportation facilities.

Grandview Neighborhood

Social cohesion impacts on the Grandview neighborhood would be somewhat less than Alternative B, but more than Alternative C2. Alternative C3 would displace 30 single-family houses; these displacements would occur in the same general areas and would have the same general effect as in the other two build alternatives. One church—Puget Sound Church of God Holiness located at Military Road and South 228th Street—would be displaced. The church has no particular association with the Grandview neighborhood and is attended by residents throughout the project area.

Regional and Community Growth

Alternative A (No Action)

Because of the general lack of north-south access and direct access to the southern end of Sea-Tac Airport, the No Action Alternative would conflict with the GMA's concurrency requirements for proposed development in the area. Two possible consequences would be the denial of permits for proposed projects or an attempt by one or more jurisdictions to improve the transportation network on a patchwork basis, perhaps with funding obtained from developer fees. Neither scenario represents a long-term solution to providing the infrastructure needed to support local and regional goals for the concentration of growth in SeaTac and Des Moines.

Impacts Common to All Build Alternatives

As a single project, the proposed project would not constitute a direct cause of growth in the community or the region. In the context of regional planning under the GMA, the proposed project would serve two important functions: (1) to provide a critical and long-needed transportation link that could help alleviate traffic problems on I-5 and project area surface streets, and (2) to assist jurisdictions within the project area to direct and achieve development in accordance with their comprehensive plans. This latter function of the proposed project would respond to the GMA's requirement that the infrastructure (primarily roads and utilities) necessary to support development must be in place within 6 years of that development. Meant to ensure that development will not inflict severe impacts on inadequate transportation and utility systems, this "concurrency requirement" has become a crucial consideration in community planning.

The comprehensive plans of the Cities of SeaTac and Des Moines (where most of the population and employment growth in the project area is expected to occur) stress the need for SR 509 and the South Access Road, or another north-south roadway of equivalent function, to help implement planned development projects and increase densities to the levels allowed by zoning. The City of SeaTac also requires the South Access Road to realize its goals for the CBD and the SASA site. In some cases, permitting of new development is explicitly made contingent on the presence of north-south roadway capacity.

It is not anticipated that growth in the project area would result in critical changes in population characteristics. Although housing values in the project area have appreciated in a manner consistent with the regional market, these houses remain affordable to people of low and moderate income. To the extent that people live near their places of work, income levels might rise because of jobs created in the proposed business parks and in airport-related enterprises. The ethnic and racial composition of the project area would not be expected to change substantially over time.

Recreation

The proposed project has the potential to affect five recreational facilities: Des Moines Creek Park and the associated Des Moines Creek Trail, Tyee Valley Golf Course, Midway Park, Linda Heights Park, and Mark Twain Elementary School Playfield. Figure 3.10-3 shows the locations of these facilities.

Alternative A (No Action)

No impacts to recreational facilities would occur under the No Action Alternative.

Impacts Common to All Build Alternatives

To the extent that the proposed project would improve transportation conditions in the project area, access to local recreational facilities would be improved.

While the proposed alignments of SR 509 and/or the South Access Road would traverse through portions of what is today the Tyee Valley Golf Course, as previously noted, it is anticipated that prior to any construction for SR 509 and the South Access Road, the golf course would be substantially reconfigured and possibly closed as a result of the development of other public projects that would render the continued use of the course in its existing configuration unlikely. The Port of Seattle, the Highline Water District, and the Des Moines Creek Basin Plan intend to use portions of the golf course for near-future projects that will render the continued use of the course unlikely. Therefore, for the purpose of this EIS analysis, it is assumed that the SR 509 project would not adversely impact a facility that would not be in existence at the time of construction.

There would be no direct impacts on Midway Park. Although the City of Des Moines' *Greater Des Moines Comprehensive Plan* (Des Moines 1995) indicates that the park will eventually be extended eastward to the existing I-5 right-of-way (Figure 3.10-4), the City and WSDOT have been working together to ensure that the envisioned eastward expansion of the park would not encroach into the widened I-5 right-of-way proposed as part of this project. Despite the proposed westward shift of I-5 with the three build alternatives, at most locations within the park there would be a decrease in noise levels because of the earthen berm immediately to the west of the existing I-5 right-of-way to accommodate the SR 509 to SR 516 southbound connector ramp. The noise-reducing effect of the earthen berm would be more pronounced at park locations closest to I-5. In areas near the I-5 right-of-way, traffic noise could decrease by as much as 5 dBA below existing levels in 2020 as a result of the project. Future (2020) peak-hour noise levels near the western edge of the park (where the existing facilities are located) are projected to be 63 dBA, or 1 dBA below projected noise levels under the No Action Alternative. Construction of the earthen berm would result in the removal of some trees immediately to the west of the existing I-5 right-of-way. Depending on the height of the berm, eastward views from the park toward I-5 (the only view of note from the park to the east) may be blocked. This view is already somewhat blocked by the trees that would be removed. The berm would be landscaped after construction to provide a green visual buffer along the eastern perimeter of the expanded park area.

No land would be directly acquired from Linda Heights Park. The proposed improvements along I-5 in the vicinity of the park (the additional northbound auxiliary lane) would bring roadway traffic closer to the right-of-way line and result in a slight, but unnoticeable increase in noise levels (less than 1 dBA)

within the park compared to the No Action Alternative. Construction of the additional lane would result in the removal of some trees immediately adjacent to the I-5 right-of-way. These trees are approximately 165 feet from the western edge of the park and below the height of the park. Removal of these trees may afford a slightly clearer view toward I-5. However, there would remain many other intervening trees that would continue to obscure the view toward the west. In addition, WSDOT would replant trees along the park, either within the I-5 right-of-way or within the park.

The project proposes a new southbound auxiliary lane south of South 272nd Street, resulting in the highway being moved closer to the edge of the Mark Twain Elementary School playfield. It is not anticipated, however, that there would be any direct impact to the playfield. Moving roadway traffic closer to the playfield would result in a slight but unnoticeable increase in noise levels (2 dBA) compared to the No Action Alternative. The existing berm between the playfield and the southbound on-ramp would be rebuilt slightly closer to the playfield, without affecting existing playfield use, and replanted with native vegetation. As a result, views from the playfield toward the east (of I-5) would be similar to current views.

Alternative B

Two bridge structures would cross through Des Moines Creek Park and over Des Moines Creek and Des Moines Creek Trail. The footprint of the two bridges would be acquired, amounting to 0.5 acre of park property. Because of the length of the span for the bridges (less than 150 feet each), it is assumed that these bridges could be built without support piers actually placed in the park. The bridge crossing would be located in one of the most isolated, secluded, and pristine areas of the park. Noise levels are roughly 5 dBA less than those experienced near the existing Des Moines Creek trailhead (the area that would be impacted by Alternatives C2 and C3). Background roadway traffic noise is virtually nonexistent. Without aircraft operations, daytime noise levels are in the 45- to 50-dBA range. This location is also approximately 3,000 feet farther south of the airport runways than the trailhead area. Aircraft are considerably higher at this location and thus aircraft noise is slightly less (up to 2 dBA) than that experienced at the trailhead. The project would introduce traffic noise into this relatively quieter area of the park and could substantially impair the natural setting and use and enjoyment of the underlying trail. In addition, numerous trees would be removed for construction of the two bridge structures, new shading effects would be created, and the bridges would dominate the trail user's view. As a result, the visual continuity of this natural stream valley would be interrupted and substantially impaired.

Alternative C2

SR 509 would cross the northeast corner of Des Moines Creek Park, requiring acquisition of approximately 4.7 acres of the park. The alignment would be on two separate 60-foot-wide elevated structures through the park and would skirt the Des Moines Creek Park trailhead and associated parking area, but would not necessarily displace it. The height of both structures would also accommodate the continued use of the trail itself, although the trail would be covered for approximately 75 feet by the northbound structure and an additional 75 feet by the southbound structure. The roadway would separate a small 2.1-acre triangular area to the north from the remaining 90 acres of the park to the south. This separated northern area is mostly wetland and wetland buffer and is not currently used for recreation or planned for future recreational development. The rest of the park would remain unaffected and contiguous. Covering of the wetland by the roadway structures could result in shading effects on the underlying wetland vegetation; however, considering the height of the structures and the space between them, light and precipitation should reach the ground and minimize any shading impacts. The two separate elevated roadway structures would be a dominating visual feature in the north portion of the park and associated trail, and would cause a visual impact for park and trail users. This impact, however, would only be experienced along the northernmost 275 feet of the trail. Noise levels in the vicinity of the impacted area are higher than elsewhere in the park, the result of being closer to the south end of the airport runways and the vehicular traffic along South 200th Street. Because of this current level of background aircraft and vehicular noise, project-related increases in hourly average noise levels are not predicted to be substantial (no more than 1 dBA when southerly departures would be in effect and up to 5 dBA when aircraft would approach from the south).

Alternative C3

Alternative C3 would clip the northeast corner of Des Moines Creek Park, requiring acquisition of approximately 3.9 acres of the park. The single, 120-foot-wide roadway structure would cover roughly 75 percent of the existing trailhead parking area. Similar to Alternative C2, however, the structure would be well above the parking area, allowing for continued use after construction. The height of the structure would also accommodate the continued use of the trail itself; only about 75 feet of the trail would actually be covered near its northern terminus. A small area of the park would be isolated between the SR 509 mainline structure and the South Access Road. Similar to Alternative C2, this area is mostly wetland and wetland buffer and is not currently used for recreation or planned for future recreational development. The rest of the park would remain unaffected and contiguous. Covering the wetland beneath the single 120-foot-wide elevated structure would result in greater shading effects than Alternative C2. Without Alternative C2's relatively narrower structures and the space between them,

less light and precipitation would likely reach the ground. The presence of the roadway structure would be a dominating visual feature for those who use the trail and trailhead parking area; this impact, however, would only be experienced along the northernmost 75 feet of the trail. Similar to Alternative C2, noise levels in the impacted area are higher than elsewhere in the park. Project-level increases in hourly average noise levels are not predicted to be substantial.

Services and Utilities

Alternative A (No Action)

No impacts on services or utilities would occur under the No Action Alternative, although continued and increasing traffic congestion on project area streets would increase response times for emergency service vehicles and make access to area facilities and services slower.

Impacts Common to All Build Alternatives

As described below, each of the build alternatives would have similar impacts on services and utilities. Existing underground utilities within the project area limits would be field located and surveyed to develop a base map that shows the location of underground utilities. This base map would be checked and verified by the utility companies and used to identify conflicts between proposed improvements and existing utilities.

Schools

The project's primary impact on schools would be the disruption of access for students living within a school's attendance boundaries. Impacts would be most severe on children who live within the school district's "walk boundary," because those who live on the far side of the proposed roadway might be forced to make long detours to cross it. Neighborhoods where such impacts could occur include Homestead Park and Mansion Hill, where students walking to Madrona Elementary School would likely face more circuitous routes to school and additional traffic. Access to the Christian Faith Center School for those who walk or drive would also be more circuitous. Conversely, better traffic flow after construction would allow school buses to reach their destinations more quickly.

Religious Institutions

All of the build alternatives would partially acquire property from the Puget Sound Church of God Holiness. This would require the removal of buildings immediately adjacent to the proposed right-of-way, displacing the church.

Medical Services

The build alternatives would not have an adverse impact on area medical services and would, overall, improve access to major regional medical facilities.

Fire and Police Protection

Emergency access to project area properties could be disrupted because of the severing of through streets. Delays in emergency response time could result from the need to detour to the nearest roadway crossing, and then double back through neighborhood streets to the scene of the emergency. Homes in the south area of Homestead Park would likely be most affected—emergency vehicles would no longer be able to access these homes using South 208th Street. Completion of the 28th/24th Avenue South Arterial Project would alleviate this problem. The Federal Detention Center would be unaffected.

Cemeteries

No impacts on cemeteries would occur under any of the build alternatives.

Governmental Institutions and Services

The build alternatives are not expected to seriously impair access to, or use of, governmental institutions or services in the project area.

Water and Sanitary Services

The build alternatives could parallel or cross several water mains and sewer trunk lines. Relocation of these lines could be required in crossing areas and in areas where the lines would lie within excavated portions of the right-of-way.

Electrical Power

Under the build alternatives, the proposed project would cross overhead or underground wires in several areas. Crossings would occur underground at two locations: where I-5 intersects with South 272nd Street, and farther south at the I-5/Military Road intersection near Star Lake Road. These electrical lines would have to be relocated as a result of the I-5 improvements (Yurovchak pers. comm. 2001). The remaining crossings would all be overhead and might require relocation if the support poles were displaced because of the proposed project.

Natural Gas

The build alternatives would parallel or cross up to five high-pressure natural gas trunk lines.

Other Utilities

The build alternatives would not be expected to impact the Olympic pipeline or Northwest Fuel Farm.

Other

Minor short-term impacts on telecommunication lines, including cable television and telephone, might occur because of improvements to I-5 in the project area and construction of the SR 509 freeway extension. In addition, solid waste collection and disposal companies might experience temporary traffic congestion associated with construction; however, these short-term impacts would occur only during construction.

Pedestrian and Bicyclist Facilities

Alternative A (No Action)

There would be no impacts on pedestrian or bicyclist facilities.

Impacts Common to All Build Alternatives

Although the proposed project would to some extent affect King County's plans for nonmotorized transportation facilities in the area, the project design can generally accommodate the widened shoulders and additional lanes or sidewalks called for in the Nonmotorized Transportation Plan in the *King County Comprehensive Plan* (King County 2000). At this time, bicycle facilities are being planned through the I-5/SR 516 interchange, either along South 228th Street as it crosses under I-5 or on SR 516 under I-5. WSDOT is committed to providing bike access through the interchange. As final design progresses, the location of the bicycle facilities would be selected based on safety, constructability, and cost comparisons, if a build alternative is selected. Other bike improvements include the extension of the Des Moines Creek Park bike trail north approximately 1 mile to the SR 509/South 188th Street interchange, and added bicycle areas along South 200th Street in the vicinity of the SR 509 on- and off-ramps.

3.10.4 Mitigation Measures

Community Cohesion

The effects of a limited-access roadway on community cohesion are difficult to mitigate. If either Alternative B or C2 is selected, WSDOT is committed to constructing a new access connection between South 208th and South 204th Streets to preserve access to remaining apartment complexes in the Madrona neighborhood. Alternative C2 would have dual access to SR 99 if constructed—both to the north between South 204th and South 208th Streets and to the south via South 211th Street (Mansion Hill). Additionally,

pedestrian access would be maintained from the end of South 208th Street to SR 99, to transit services, and to nearby businesses where the alignment blocks the existing right-of-way. Pedestrian safety and access would also be enhanced in the Madrona neighborhood with the improvement of pedestrian access near Madrona Elementary School. These mitigation measures would benefit the community by increasing access options to transit services and nearby employment opportunities and businesses. WSDOT will continue to refine the selected alternatives to further minimize impacts to neighborhoods.

Displaced households would be relocated as close to their original residences as possible unless otherwise requested. In particular, low-income households would be relocated in close proximity to places of employment and public transportation. Most replacement multifamily housing in the area is within walking distance of SR 99, which has good transit service. All households would be relocated to a unit they could afford. If affordable housing is not available, WSDOT would provide housing through housing of last resort. See Section 3.9, *Relocation*, for a full discussion of mitigation measures for displacements.

Other measures that WSDOT could consider include:

- Investigate the feasibility and benefits of maintaining through access on key neighborhood streets (even if not arterials) by means of additional overcrossings or undercrossings.
- Investigate the feasibility and benefits of installing pedestrian access across the roadway to provide connection between portions of bisected neighborhoods.
- Work with school districts and other community service providers to solve access problems caused by cutoff streets.

Regional and Community Growth

Because the regional and community growth facilitated by the proposed project would be consistent with local and areawide plans and policies, no mitigation is proposed.

Recreation

Alternative B

WSDOT would replace any parkland acreage acquired with an equal amount of acreage of reasonably equivalent or greater recreational utility within the existing SR 509 right-of-way north of South 208th Street. Native trees would be planted to mitigate for vegetation removal between I-5 and Linda Heights Park. Mitigation for noise and visual impacts are addressed in Section 3.2, *Noise*, and Section 3.14, *Visual Quality*, of this document.

Alternatives C2 and C3

WSDOT would replace any parkland acreage acquired with an equal amount of acreage of reasonably equivalent or greater recreational utility within the existing SR 509 right-of-way north of South 208th Street and immediately adjacent to Des Moines Creek Park's western boundary.

To mitigate the potential impacts of Alternatives C2 and C3 on Des Moines Creek Park, a northbound extension of the existing Des Moines Creek Trail would be integrated into the design of the SR 509 improvements. As currently designed, the trail would cross South 200th Street near the entrance to Des Moines Creek Park and parallel South 200th Street westward along the north side of the arterial. The trail would turn in a northerly direction west of the South 200th Street/SR 509 intersection. The trail would continue northward along the western edge of the proposed SR 509 fill slopes. The trail would terminate at South 188th Street, with future linkages to the regional trail network to be completed by others under separate environmental review.

Native trees would be planted to mitigate for vegetation removal between I-5 and Linda Heights Park.

Services and Utilities

Schools

Mitigation for impacts on neighborhood access to schools could include the following measures:

- Extend school bus routes to include children whose school access would be disrupted.
- Provide pedestrian-safety features (sidewalks, crossing lights, crossing guards) along walking routes from affected areas to neighborhood schools.

Medical Services

No mitigation would be necessary for medical service facilities.

Fire and Police Protection

WSDOT would coordinate with area police departments and fire districts on the location of freeway crossings to develop access plans for emergency services in areas where street access would be changed by the proposed project. Care would be taken to ensure that water lines on cut-off streets would be of adequate size to meet fire flow standards. If street cutoffs were to result in excessively circuitous neighborhood access routes that could

substantially hinder the progress of emergency vehicles, WSDOT would investigate possibilities for providing alternate access by extending existing streets (such as cul-de-sacs) into the affected neighborhoods.

Cemeteries

No mitigation is necessary.

Governmental Institutions and Services

No mitigation is necessary.

Water and Sewer Services

No mitigation is necessary.

Electrical Power

No mitigation is necessary.

Natural Gas

No mitigation is necessary.

Pedestrians and Bicyclists

Pedestrian and bicycle facilities along the local streets would be redirected to the nearest arterial that would cross the proposed improvements.

Other Utilities

No mitigation is necessary.

3.10.5 Construction Activity Impacts and Mitigation

Construction Activity Impacts

Construction-related impacts of the build alternatives on neighborhoods would include additional traffic on neighborhood streets, detours, congestion, increased dust and exhaust from construction vehicles, and increased noise levels in the vicinity of construction sites. Details of these impacts and the mitigation proposed for them are contained in the Transportation Discipline Report, *SR 509/South Access Road EIS Discipline Report: Air Quality* (WSDOT 1999), and *SR 509/South Access Road EIS Discipline Report: Noise* (CH2M HILL July 2001).

Under Alternative B, the Des Moines Creek Trail would likely need to be closed for safety measures during construction of the bridges over

Des Moines Creek Park. Under Alternatives C2 and C3, the trailhead parking area and the northern end of the trail would likely need to be closed for safety reasons during construction of the elevated roadway structure in the park. In all cases, WSDOT would work closely with the City of SeaTac to minimize disruption to these facilities and, when unavoidable, work with the City to implement alternative routes/detours.

School bus routes using I-5 and local streets might be somewhat delayed during construction.

Mitigation Measures

Mitigation measures for construction-related transportation, air quality, visual quality, and noise impacts are discussed in the applicable SR 509/South Access Road EIS discipline reports and in previous sections of this document.

WSDOT would coordinate with project area water and sewer districts on potential relocations of mains, trunk lines, and other facilities. Service disruption impacts would be minimized through early warning notifications to customers regarding scheduled outages.

WSDOT would work with PSE to avoid or minimize disruption of the local power and gas supply. Crossings of transmission and distribution lines could be mitigated as follows:

- Wood, power transmission and distribution poles could be replaced, as necessary, with tall steel poles to provide adequate roadway and flyover ramp clearance.
- WSDOT could coordinate with PSE to locate new transmission and distribution poles and to ensure that required transmission and distribution line relocations would not result in service interruptions.
- Crossings of high-pressure gas pipelines would meet PSE's standards for protection of its pipelines. During final design of the selected alternative, WSDOT would submit plans of the crossings to PSE for review and approval prior to construction.

3.10.6 Compliance with Executive Order 12898 and FHWA Order 6640.23 on Environmental Justice

The build alternatives were evaluated for compliance with Presidential Executive Order (EO) 12898 and FHWA Order 6640.23 (Appendix F of this FEIS). These orders establish that it is federal policy to avoid, to the extent practicable, disproportionately high and adverse human health or environmental impacts on minority or low-income populations. As reported

in the series of discipline reports prepared for the FEIS, and further confirmed through discussions with the report authors, no disproportionate impacts are expected to fall on minority or low-income populations. In addition, the impacts are not considered high and adverse as a result of this project after proposed mitigation measures are implemented. Based on appropriate and adequate mitigation resulting in no high and adverse impacts, along with a determination that we are not disproportionately impacting any minority or low-income populations, the analysis concludes that the SR 509: Corridor Completion/I-5/South Access Road Project does not have any disproportionately high and adverse impacts on minority or low-income populations. The SR 509: Corridor Completion/I-5/South Access Road Project can therefore be considered to be consistent with the policy established in EO 12898 and FHWA Order 6640.23.

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